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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/643,981	08/23/2000	Henry H. Cheng	723-845	9922
27562	7590	04/10/2006	EXAMINER	
			LAO, LUN S	
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DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/643,981	CHENG, HENRY H.	
	<b>Examiner</b> Lun-See Lao	<b>Art Unit</b> 2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 29 December 2005.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-29 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-29 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Introduction*

1. 1. This action is response to the pre-appeal brief request filed on 12-29-2005.

Claims 1-29 are pending.

2. After further consideration on the applicant's argument and the claim language and the prior art of record, the examiner found that the reference to Williams still reads on the claimed limitation for the following reason: although applicant's claim calls for each sound channel including a main sound component and one or more auxiliary sound component, applicant did not define what is the auxiliary or main sound component. Therefore the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the effects send 116 in fig. 3 of Williams) can be consider an auxiliary component of each channel, while the component of each channel that goes to the dry mix of fig.3 can be considered as a main sound component. Therefore, the last rejection still applies on all the pending claims.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4-6, 8-13, 23-24, 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams (US PAT. 5,896,459).

5. Consider claims 1 and 5 Williams teaches a sound effects processing system comprising:

a sound effects processor (see fig.3,(100)); and

a mixer comprising (see fig.3, (100)):

a mixer buffer (see fig.3, (100)) for storing sample values for three or more sound channels (see fig.3, (such as ch1, ch2...ch n-1, ch n)), each sound channel including a main sound component (the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the dry mix of fig.3 can be considered as a main sound component ) and one or more auxiliary sound components ( the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the effects send 116 in fig. 3 of Williams) can be considered an auxiliary component and see col. 4 line 40-col.5 line 19) and (see fig.4, (146,148,150,152));

send paths (see fig.3, (116) and fig.4, (116)) for sending the auxiliary sound components for each sound channel to the sound effects processor (30 in fig. 2); and

return paths (see fig.3,118, and fig. 4 (118)) from the sound effects processor for respectively adding (see fig.4, signal from 194 (top) adds with the signal from (bottom) 192 in the area marked by a dot) the effects-processed auxiliary sound components for each channel to the corresponding main sound component (see col. 5 line 20-col.6 line 67).

As to claim 23, there is a method claim responding to system of claim 1. See previous system claim 1 rejection.

Consider claims 2, 4 and 6, 8, Williams teaches the system of the mixer further comprises:

mixer volume controls for independently controlling the volume of the main and auxiliary sound components of each sound channel supplied to the mixer buffer (see col.5 line 20-col.6 line 67); and the system of the sample values for three or more sound channels are accumulated for a plurality of voices (see figs. 3-4 and col.4 line 40-col.5 line 20).

As to claims 24 and 26, these are the method claims of claims 2 and 4, respectively. Thus note claims 2 and 4, respectively, for rejections.

Consider claims 9-11, Williams teaches the system of the sound effects processor provides reverb to the auxiliary sound components( the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the effects send 116 in fig. 3 of Williams) can be consider an auxiliary component of each channel) for each sound channel (see col.4 lines 34-57); and the system of the sound effects processor 2 provides delay to the auxiliary sound components for each sound channel (see col.4 lines 34-57); and the system of the sound effects processor provides chorus to the auxiliary sound components for each sound channel (it may provide chorus, because etcetera and see col.4 lines 40-57).

Method claims 27-29 correspond to apparatus claims of claims 9-11, respectively. Thus note the rejections for claims 9-11, Williams meets all the claimed limitations.

Consider claims 12-13, Williams teaches the system of the sound effects processor processes the auxiliary sound components ( the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the effects send 116 in fig. 3 of Williams) can be consider an auxiliary component of each channel) for each sound channel using the same sound effects parameters (depends on fig.4, 116, 118 (effects) and see col.6 line 55-67); and the system of the sound effects processor processes the auxiliary sound components for each sound channel using different sound effects parameters (depends on fig.4, 116, 118 (effects) and see col.6 line 55-67).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3,7 and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (US PAT. 5,896,459) in view of applicant's prior admitted art (APA)

Consider claims 3 and 7, Williams does not clearly teach the system of the mixer further comprises a surround encoder, and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed auxiliary sound components added to the surround channel, onto the left and right sound channels.

However, Applicant's APA teaches the system of the mixer further comprises a surround encoder (see fig.11b, (surround encoding)), and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed (1004) auxiliary sound components added to the surround channel, onto the left and right sound channels (see specification page 3 lines 12-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of applicant's prior art into Williams to provide an enhanced audio output for audio the mixer.

As to claim 25, there is a method claim responding to system of claim 3. See previous system claim 3 rejection.

8. Claims 14-15, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneoka (US PAT 4,783,812) in view of Williams (US PAT 5,896,459).

Consider claim 14, Kaneoka teaches a video game system comprising:  
a video game machine (see fig.1, 14) for executing a video game program; and  
a hand-held player controller (14) connected to said video game machine (14) and  
operable by a player to generate video game control signals for the video game  
program (see col. 4 line 23-col. 5 line 25),

wherein said video game machine includes an audio system for generating

sound signals for driving speakers, said audio system comprising (see col.3 line 45-col.4 line 64); but Kaneoka does not teach a sound effects processor; and a mixer comprising:

a mixer buffer for storing sample values for three or more sound channels, each sound channel including a main sound component and one or more auxiliary sound components;

send paths for sending the auxiliary sound components for each sound channel to the sound effects processor; and

return paths from the sound effects processor for respectively adding the effects-processed auxiliary sound components for each channel to the corresponding main sound component.

However, Williams teaches a sound effects processing system comprising:

a sound effects processor (see fig.3, (100)); and

a mixer comprising (see fig.3, (100)):

a mixer buffer (see fig.3, (100)) for storing sample values for three or more sound channels (see fig.3, (such as ch1, ch2...ch n-1, ch n)), each sound channel including a main sound component (the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the dry mix of fig.3 can be considered as a main sound component) and one or more auxiliary sound components (the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the effects send 116 in fig. 3 of Williams) can be considered an auxiliary component and see col. 4 line 40-col.5 line 19) and (see fig.4, (146,148,150,152));

send paths (see fig.3, (116) and fig.4, (116)) for sending the auxiliary sound components for each sound channel to the sound effects processor (30 in fig. 2); and return paths (see fig.3,118, and fig. 4 (118)) from the sound effects processor for respectively adding (see fig.4, signal from 194 (top) adds with the signal from (bottom) 192 in the area marked by a dot) the effects-processed auxiliary sound components for each channel to the corresponding main sound component (see col. 5 line 20-col.6 line 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Williams into Kaneka to provide separating dry, effects and main mixes that is compact, easy to operate and efficient to use.

Consider claim 15 and 17, Williams teaches the system of the mixer further comprises:

mixer volume controls for independently controlling the volume of the main and auxiliary sound components of each sound channel supplied to the mixer buffer (see col.5 line 20-col.6 line 67); and the system of the sample values for three or more sound channels are accumulated for a plurality of voices (see figs 3-4 and col.4 line 40-col.5 line 20).

Consider claims 18-20, Williams teaches the system of the sound effects processor provides reverb to the auxiliary sound components for each sound channel (see col.4 lines 34-57); and the system of the sound effects processor 2 provides delay to the auxiliary sound components for each sound channel (see col.4 lines 34-57); and

the system of the sound effects processor provides chorus to the auxiliary sound components for each sound channel (it may provide chorus, because etcetera and see col.4 lines 40-57).

Consider claims 21-22, Williams teaches the system of the sound effects processor processes the auxiliary sound components for each sound channel using the same sound effects parameters (may be, depends on fig.4, mix console and see col.6 line 55-67); and the system of the sound effects processor processes the auxiliary sound components for each sound channel using different sound effects parameters (may be, depends on fig.4, mix console and see col.6 line 55-67).

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneoka (US PAT 4,783,812) as modified by Williams (US PAT 5,896,459) as applied to claim 14 above, and further in view of Applicant's admitted prior art (APA).

Consider claim 16, Kaneoka and Williams do not clearly teach the system of the mixer further comprises a surround encoder, and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed auxiliary sound components added to the surround channel, onto the left and right sound channels.

However, Applicant's APA teaches the system of the mixer further comprises a surround encoder (see fig.11b, (surround encoding)), and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed (1004) auxiliary sound

components added to the surround channel, onto the left and right sound channels (see specification page 3 lines 12-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kaneoka and Williams into the teaching of applicant's APA art to provide an enhancing audio outputs for audio mixer.

### ***Response to Arguments***

10. Applicant's arguments filed 12-29-2005 have been fully considered but they are not persuasive.

Applicant argued that There is simply no disclosure in Williams of a channel having a main component and one or more auxiliary components that are processed as claimed; and Williams further fails to disclose sending the auxiliary sound components of each of a plurality of sound channels to a sound effects processor and then adding these effects-processed auxiliary sound components to corresponding main sound components (see remark page 3, 3<sup>rd</sup> and last paragraphs).

The examiner disagreed with that. Williams teaches a mixer buffer (see fig.3, (100)) for storing sample values for three or more sound channels (see fig.3, (such as ch1, ch2...ch n-1, ch n), each sound channel including a main sound component (the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes to the dry mix of fig.3 can be considered as a main sound component ) and one or more auxiliary sound components ( the component of each channel (e.g., ch1, ch2, ...ch n-1, ch n) that goes

to the effects send 116 in fig. 3 of Williams) can be considered an auxiliary component and see col. 4 line 40-col.5 line 19) and (see fig.4, (146,148,150,152));

send paths (see fig.3, (116) and fig.4, (116)) for sending the auxiliary sound components for each sound channel to the sound effects processor (30 in fig. 2); and return paths (see fig.3,118, and fig. 4 (118)) from the sound effects processor for respectively adding (see fig.4, signal from 194 (top) adds with the signal from (bottom) 192 in the area marked by a dot) the effects-processed auxiliary sound components for each channel to the corresponding main sound component (see col. 5 line 20-col.6 line 67). It meets the limitation as the claimed recited.

### ***Conclusion***

**11. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hasebe (US PAT 6,658117) are recited to show other related the Method and apparatus for mixing sound signals.

13. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Facsimile responses should be faxed to:  
**(571) 273-8300**

Hand-delivered responses should be brought to:  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 03-28-2006

  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600